

**PATENT**

**CLAIMING SYSTEM AND METHOD**

INVENTORS

**Daniel A. King**  
2611 West 45<sup>th</sup> Street, Suite B  
Austin, Texas 78731

**William B. Williams**  
4103 Balboa Lane  
Austin, Texas 78727

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Deena Beasley

**Title:** Claiming System And Method

**Inventors:** Daniel A. King and William B. Williams

**Cross-Reference to Related Application:**

The present application is based on U.S. Provisional Patent Application entitled "Claiming System And Method", Serial Number 60/246,711, filed November 8, 2000, which is hereby incorporated by reference in its entirety.

5 **Field of the Invention:**

The present invention relates to claiming systems and methods, and more particularly, to expediting the claims process for any industry, such as automobile insurance, civil engineering, public works, construction, fraud prevention, security, traffic enforcement, shipping, inventory control, etc., where an inspection, comparison, verification or observation process occurs.

**Background of the Invention:**

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15 The claims industry is lethargic and inefficient by design, yielding in reduced customer retention. Customer inconvenience is the legacy of the claims processing industry. Redundant paper flow results in long lead times for both the Insured and the Insurer. Human error creates inaccuracies that effect both the Insured and the Insurer. The existing claims systems and processes place the consumer in an adversarial role as the restoration profit is the Insurer's expense.

**Brief Description of the Drawings:**

20 Figure 1 is a block diagram of an information system in which collision data is collected at the birth of an accident at the accident site.

Figure 2 is a block diagram of a delivery system for transporting the insured from the accident site.

Figure 3 is a block diagram of a delivery system providing increased convenience to the insured by delivering the Insured's repaired automobile and retrieving a rental or  
5 loaner automobile.

Figure 4 is a block diagram of an alternative embodiment employing a claims wizard.

Figure 5 is a block diagram of a laser mapping system and method for mapping the surface of the damaged automobile soon after the accident.

Figure 6 is a block diagram illustrating a central-repair facility method.

Figure 7 is a block diagram illustrating the insured's automobile equipped with a mobile data collection system.

Figure 8 is a block diagram of an auction system illustrating posting accident information via the communications network for purposes of sale and/or auctioning for parts and services necessary for repair.

Figure 9 is a simplified block diagram of a parts procurement system implemented according to an embodiment of the present invention.

**Detailed Description of Embodiment(s) of the Invention:**

Figure 1 is a block diagram of an Information System 100 in which collision data is collected at the birth of an accident at the accident site 101. The term "birth" refers to the moment an auto collision occurs and before the traditional insurance industry definition of the collision repair process. An automobile 103 being driven by or otherwise associated with an insured person or the "insured" 105 is in an automobile accident at an accident site 101. In one embodiment, the collision is reported by anyone using any of numerous wireless devices 107 via wireless communications 109 to an insurer site 113 via a communication network 111. The communication network 111 incorporates or otherwise encompasses many different types of electronic communication networks. The electronic communication networks include, for example, various telephone networks such as the Public Switched Telephone Network (PSTN) wireless communications and associated devices for enabling communications by cellular telephones and the like (CELL). The electronic communication networks also includes any computer communications networks, such as local area networks (LAN) or wide area networks (WAN) and further encompasses interconnected networks such as comprises the Internet including the Internet backbone and other networks that enable global computer communications.

The insured 105 or any other on-site personnel (at the accident site 101) reports the accident. In one embodiment for example the insured 105 includes a cell phone 119 or the like and places a wireless call to a claims agent 115 at the insurer site 113. Other on site personnel may include police or emergency medical services (EMS) personnel or the like depending upon the needs at the time of the accident. The call using the cell

phone 119 is made to the claims agent 115 who then coordinates additional communications, such as to the police or medical personnel, etc. The claims agent 115 may also call a cab company 133 to dispatch a taxi 135 to the accident site 101.

In one embodiment, the insured 105 carries with him or with the automobile 103 a personal digital assistant (PDA) device 121 or the like which is equipped with wireless communications to establish the call or communication to the claims agent 115. The PDA device 121 is further equipped with electronic data capture equipment, such as a digital camera or the like, for retrieving and recording accident information. For example, the PDA device 121 includes a built-in or attachable camera, such as a digital camera. A separate digital camera may be utilized as well, although it is desired to combine the data capture equipment with wireless communications. An on-site person, such as the insured 105, takes one or more pictures of the damaged automobile 103 at the accident site 101. The PDA device 121 may further be used to take a picture of a vehicle identification number (VIN) of the damaged automobile 103. In one embodiment, the PDA device 121 may include or otherwise scan device to scan the VIN if in bar code format. The PDA device 121 may also be used to record other collision information at the accident site 101, such as damage to any other automobiles involved in the accident. Further, the PDA device 121 may be utilized to collect other data such as pictures of any person or persons involved in the accident and any injuries sustained. The PDA device 121 may further be used to collect data such as digital pictures or the like of the accident site 101, such as the scene of the accident and the concomitant environment conditions such as the weather, location, amount of traffic, type of traffic, etc. All such accident information may be used to assess the cause of the accident, damage to automobiles or

other vehicles involved in the accident, damage to any other property involved in the accident, and any injuries sustained in the accident.

The data collection equipment combined with wireless communications of the PDA device 121 provides a convenient system for data collection and transfer, particularly associated with assessment and repair of the damaged automobile 103. In particular, the digital pictures and other data is wirelessly transmitted as indicated by a wireless data communication link 123 to a computer system 117 at the insurer site 113 coupled to the communication network 111. Thus, the accident data is collected at the accident site 101 and wirelessly transmitted to the insurer site 113 at the birth of the accident. In this manner, the claims agent 115 need not be involved at the accident site 101. Further, the insured 105 need not be involved in transporting the damaged automobile 103 to the insurer site 113 or any affiliated location in order to collect the damage information, as typically done in the traditional insurance industry model. This removes the claims agent 115 from the field for collecting the data associated with damaged automobile 103, which is ultimately used to identify the claims amount to be paid to the insured 105.

The accident information collected at the accident site 101, via the PDA device 121 or the like, is wirelessly transferred to the insurer site 113 to the computer 117 and stored in a data storage device 125 coupled to the computer 117. In one embodiment, the claims agent 115 may make a preliminary estimation of the damage to the automobile 103, or may determine that the damaged automobile 103 is totaled and not repairable. In either case, the claims agent 115 uses the accident information to determine a preliminary claims estimate for the insured 105. In one embodiment, the computer 117 may further

be equipped with an estimation software 127, or the like, operated by the claims agent 115 to assist or otherwise facilitate review and assessment of the data to identify a claims estimate for the damage to the automobile 103. The estimation amount may be transmitted wirelessly, such as via data communication link 123, to the PDA device 121 and displayed to the insured 105 soon after the accident. Alternatively, the claims agent 115 may simply establish a claims number and wirelessly transmit the claim information to the insured 105 via the PDA device 121.

The claims agent 115 may further identify a local affiliated tow truck establishment and contact the establishment to send a tow truck 129 to the accident site 101. The tow truck 129 is primarily employed to retrieve the damaged automobile 103 from the accident site 101. A tow truck driver 131 is thus brought to the accident site 101 and is considered another one of the on-site personnel. In one embodiment, the PDA device 121 or another PDA device similar to it is brought by the tow truck driver 131 for collecting the data in a similar manner. Thus, any of the on-site personnel, including the insured 105 and/or the tow truck driver 131, may be employed to utilize the PDA device 121 to collect damaged data and accident information. Thus, the insured 105 may be equipped with the PDA device 121, or the truck driver 131 may be equipped with the PDA device 121, or both may be so equipped for redundancy to insure that the data is collected at the accident site 101. Of course, other on-site personnel may be employed to collect the data, such as policeman, an ambulance driver or paramedic, etc., although such on-site personnel typically have other duties and are unlikely candidates for data collection purposes. Any of the on-site personnel such as the insured 105, the tow truck driver 131, or police, ambulance driver or paramedic may be employed to call the cab

company 133 to dispatch the taxi 135 in order to retrieve the insured 105 from the accident site 101 and deliver the insured 105 to any convenient location, such as an automobile rental agency. Alternatively, as previously described, the claims agent 115 calls the cab company 133. It is noted that the tow truck 129 may be employed to deliver  
5 the insured 105 to the cab company 133 or to an automobile rental agency. These scenarios for delivery of the insured 105 assumes that the insured 105 is not significantly injured and ported to a hospital via ambulance.

Figure 2 is a block diagram of a delivery system 200 for transporting the insured 105 from the accident site. In this case, the tow truck facility 201 is informed of the location of the accident site 101 in order to retrieve the damaged automobile 103. In this case, the dispatched tow truck 129 picks up a rental or loan (R/L) automobile 207 from either an automobile rental agency 203 or a new car dealership 205. In particular, the R/L automobile 207 is a rental car (R) retrieved from the automobile rental agency 203, or a loan car (L) retrieved from a new car dealership 205 which may be associated with a particular automobile manufacturer. Thus, the tow truck 129 retrieves an R/L automobile 207 and delivers the R/L automobile 207 to the accident site 101 for use by the insured 105. In this manner, the insured 105 is not stranded at the accident site 101 and convenience is maximized. The tow truck 129 then retrieves and delivers the damaged automobile 103 either to the tow truck facility 201 via route 213 or to a repair facility 217  
20 via route 215. In this manner, the tow truck 129 serves the dual purpose of delivering a temporary automobile to the insured 105 and retrieving and delivering the damaged automobile 103 to the appropriate location. The delivery to the repair facility 217 is most desirable if the repair facility 217 is predetermined or otherwise identified, such as by the

claims agent 115. Otherwise, the tow truck 129 delivers the damaged automobile 103 to the tow truck facility 201 for later delivery to the repair facility 217.

As described previously, the PDA device 121 is utilized to collect damage and accident information at the accident site 101 and this information is wirelessly communicated to the insurer site 113. If the PDA device 121 is not equipped with wireless communications, or if the wireless communications are otherwise unavailable or inoperative, the PDA device 121 with the collected data may remain with the damaged automobile 103 and be delivered to the tow truck facility 201 and/or the repair facility 217. The tow truck facility 201 and/or the repair facility 217 may be equipped with a (PC) dispatch system 211 or the like, that includes an appropriate interface, such as a cable, a docking unit, a cradle unit, etc., for coupling to and retrieving the collected data from the PDA device 121. The PC dispatch system 211 is coupled to the communication network 111 for transmitting the data to the insurer site 113 via the PC dispatch system 211. In this manner, the data is collected at the accident site 101 and delivered soon thereafter upon delivery of the damaged automobile 103.

The automobile rental agency 203 may be affiliated with the insurer of the insured 105. The new car dealership 205 may also be affiliated with the insurer such as through contract or the like and delivers a loan car temporarily to the insured 105 for various purposes. For example, the new car dealership 205 may utilize the opportunity to market a new car to the insured 105 since the damaged automobile 103 may be considered totaled and no longer usable as originally intended. Alternatively, the car dealership 205 may be associated with a manufacturer that also manufactured the damaged automobile 103 in an attempt to have the insured 105 purchase a new car from the same

manufacturer. Alternatively, the manufacturer may be a competing manufacturer of the manufacturer that manufactured the damaged automobile 103 and may potentially obtain new business.

Figure 3 is a block diagram of a delivery system 300 providing increased convenience to the insured 105 by delivering the Insured's repaired automobile 103 and retrieving the R/L automobile 207. After the damaged automobile 103 is repaired, as indicated by the letter "R", the tow truck 129 or similar tow truck retrieves and delivers the repaired automobile 103 indicated by arrow 303 to the insured 105 at a convenient location or at a mutually acceptable location such as the insured's home 301. It is noted that such delivery may be of ultimate convenience to the insured 105 and may be at any convenient location that the insured 105 happens to be at when the repaired automobile 103 is ready for delivery. The tow truck 129 then retrieves the R/L automobile 207 and returns it to its original location, such as the automobile rental agency 203 or the new car dealership 205 as previously described. In this manner, the insured 105 need not be involved in the traditional insurance loop, such as having to return the rental car and retrieve the repaired automobile 103.

Figure 4 is a block diagram of an alternative embodiment employing a claims wizard 401. In this embodiment, the wireless communications with the PDA device 121 as indicated by wireless communication link 405 is interactive for more efficient or otherwise more informative data collection. In this case, the computer system 117 is equipped with a claims wizard 401, which interactively cooperates with the PDA device 121 to communicate to the insured 105 regarding particular data collection parameters. The claims wizard 401 also stores the damage and accident information in the data

storage device 125. Further, the claims wizard 401 in one embodiment is informed of the type of vehicle such as identified by the insured 105 or through the VIN collected at the automobile accident site 101 from the damaged automobile 103 and determines what particular data needs to be collected. For example, the claims wizard 401 retrieves initial data, such as an initial digital picture or the like from the PDA device 121, and accesses a local master database 403. The master database 403 identifies similar-type accidents or otherwise similar-type automobiles and identifies any potential additional information that should be collected. In this manner, the claims wizard 401 operates as an expert system that stores past and potentially relevant information that may be applicable or otherwise relevant to the particular accident involving the damaged vehicle 103.

During operation, the claims wizard 401 transmits instructions to the operator of the PDA device 121, such as any on-site personnel including the insured 105, to collect any further information regarding the accident. For example, the claims wizard 401 may instruct the operator of the PDA device 121 to take digital pictures of certain parts of the automobile 103, such as particular angles and views, including the opposite side of the primary damage portion or the undercarriage of the damaged automobile 103, or any other data that may be considered pertinent to damage assessment. The information collected on the damaged automobile 103 at the accident site 101 is then stored in the data storage device 125 in a similar manner as previously described. Further, the data may be incorporated into the master database 403 and used by the claims wizard 401 in subsequent accidents. In this manner, it is appreciated that the claims wizard 401 is an expert system, such as using artificial intelligence or the like, to continuously learn and adapt in order to improve and streamline the data collection process at accident sites such

as the accident site 101. The data is collected in a master database 403 which may be maintained local at the insurer site 113. Alternatively, or in addition, the master database 403 may be located remotely relative to the insurer site 113 and accessible via the communications network 111 such as the Internet or the like.

5           Figure 5 is a block diagram of a laser mapping system and method 500 for mapping the surface of the damaged automobile 103 soon after the accident. In one embodiment, a tow truck 501 is equipped with a laser mapping system (LMS) 503 which retrieves information from the damaged automobile 103 once mounted onto the tow truck 501 and during delivery thereof. The tow truck 501 may be a flatbed type tow truck for conveniently mounting and positioning the damaged automobile 103. The laser mapping system 503 is positioned to use laser-mapping technology to obtain more accurate damage information from the damaged automobile 103. The information may be stored on the tow truck 501 such as utilizing a local storage device 504. Alternatively, the data collected by the laser mapping system 503 is wirelessly communicated by a wireless communication device 505 on the tow truck 501 that wirelessly communicates 507 the damage information via the communication network 111. Again, the data is delivered to the insurer site 113.

20           In an alternative embodiment, the tow truck or repair facility 509 representing either the tow truck facility 201 or the repair facility 217 may be equipped with a laser mapping system 511. The damaged automobile 103 is positioned for data collection by the laser mapping system 511 and the data is either stored locally or communicated to the computer system 117 of the insurer site 113 via the communication network 111 in a similar manner as previously described.

Figure 6 is a block diagram illustrating a central-repair facility method. It is noted that the laser mapping system 511 may be relatively sophisticated and expensive and may not be affordable by many repair facilities that may be utilized to repair the damage to automobile 103. In this case, a central repair facility 601 is equipped with the laser mapping system 511 at a central area 603. The central area 603 represents any centralized location, such as a city, county, town, etc. The immediate area or surrounding area may include one or more local or remote repair facilities 605 that may perform some or all of the repairs to the damaged automobile 103. As shown, several local or remote repair facility 605 are shown, individually numbered 1 through 6, although any number, more or less, is contemplated.

The damaged automobile 103 may be analyzed and completely repaired at the central repair facility 601. However, the central repair facility 601 may not have the capacity to handle the demand or the number of damaged cars at any given time so that some or all of the repairs are handled by any one or more of the local or remote repair facility 605. Rather than making the insured 105 wait on additional amount of time for the repaired automobile 103, it is contemplated that the tow truck 129 or the like is utilized to transport the damaged automobile 103 to any of the local or remote repair facilities 605 to expedite the repair process. The local or remote repair facility 605 represent any type of facility such as body shops, paint shops, garages, etc., and includes any type of repair facility or services necessary to repair the damaged automobile 103.

Figure 7 is a block diagram illustrating the automobile 103 equipped with a mobile data collection system 700. The automobile 103 is equipped with a monitoring system 701 coupled to a plurality of sensors that detect any information associated with

the condition and operation of the automobile 103. The data is transferred to a data storage device 705 associated with use and operation of the automobile 103. The monitoring system 701 collects any type of data and information such as ambient conditions including weather, location and traffic, as well as conditions of the damaged automobile 103. The condition of the automobile 103 may include any previous damage, any disrepair or any condition such as the engine, tires, brakes or any other operating systems of the automobile 103 including condition or lack of repair. Furthermore, the monitoring system 701 monitors the controls of the automobile 103 used by a driver such as the insured 105 during operation. The data may be collected periodically or may be collected continuously. Certain condition information such as the engine or brake systems needing repair may be collected and stored until the condition is changed. Other information such as the controls of the automobile 103 may be monitored on a continuous basis where only the latest amount data such as the last 24 hours of operation are monitored.

In one embodiment, it is contemplated that the monitoring system 701 operates in a similar manner as a black box mounted on aircraft that are utilized to collect data and information associated with an accident. In this manner, the monitoring system 701 detects and collects any and all accident information associated with the accident, where the data may be utilized in any one of several manners. In one embodiment, the data is simply used to assess the damage to the automobile 103. In other embodiments, the data may be utilized to assess actions taken by the insured 105 or others that may have caused the accident. In any event, the accident may be reconstructed at a certain level.

The monitoring system 701 may further be coupled to a communication system 707 for communicating collected information via a wireless communication link 709 such as through the communications network 111. The communication system 707 may in fact be the PDA device 121 cradled or docked such as in the glove box or the like.

5 Alternatively, the communication system 707 may be integrated into the automobile 103, such as the On-Star system or the like. The communication system 707 may be utilized independently and in lieu of the monitoring system 701 to report the accident and collect information, or utilize in conjunction with the monitoring system 701 to transmit collision damage and accident information to the insurer site 113.

Figure 8 is a block diagram of an auction system 800 illustrating posting accident information via the communications network 111 for purposes of sale and/or auctioning for parts and services necessary for repair. In this case, the damage information collected in the data storage device 121 at the insurer site 113 associated with the accident of the damaged automobile 103 is posted in any desired format, such as a web page 801 or the like, via the communication network 111 such as the internet or the like. The insured 105, at a convenient terminal or computer 802 or the like coupled to the communications network 111, is able to review the information associated with the accident, including, for example, a claim number. The damage information of the automobile 103 is also posted to any affiliated source, such as one or more body shops 803, or one or more salvage yards 811. In one embodiment, the data may be posted for free to solicit bids from any body shops 803 and/or salvage yards 811 interested in either repairing the damaged automobile 103 or retrieving it for scrap. It is noted that the body shops 103 are further associated with paint shops 805, parts departments 807 and/or labor and services 809.

In another embodiment, a plurality of body shops 803 and/or salvage yards 811 are affiliated with the insurer and may be notified via e-mail or the like of the accident. The data is posted via the communication network 111 to the affiliated entities, such as the body shops 803 and/or salvage yards 811, which may then submit bids. The insured 105 may monitor any bid(s) submitted by body shops 803 and/or salvage yards 811 and select any one of choice. In the insured industry, it is the responsibility of the insured 105 to select the body shop to repair the damaged automobile 103 or otherwise to sell the damaged automobile 103, such as to a salvage yard or the like. The auction system 800 provides a convenient system for the insured 105 to identify and select a particular body shop 803 or salvage yard 811 to handle the damaged automobile 103. Of course, the insured 105 may optionally choose to select alternative body shops or salvage yards at his or her discretion.

The data and accident information posted by the insurer site 113 may further be of interest to other parties who desire to pay for such information. For example, automobile manufacturers 815 may desire the information for use in improvements to subsequent automobile manufacturer. The National Highway Transportation Safety Association (NHTSA) 817 may further desire to purchase the data to collect aggregate statistics on automobile accidents. Of course, any other auto-related entity 813 may purchase the data for various other reasons.

Figure 9 is a simplified block diagram of a parts procurement system 900 implemented according to an embodiment of the present invention. The insurer site 113 further posts a parts-list posting and procurement auction 901 via the communication network 111 for bid by any parts suppliers 913, automotive manufacturers 911, resellers

909 or other service providers 907. The winning body shop 903, or otherwise the winning salvage yard 905, may review the bids and select parts based on bids by any of the service providers 907, resellers 909, automotive manufacturers 911 or suppliers 913.

Although the present disclosure is directed specifically towards the claims process of the automobile insurance industry, the present invention is not so limited and is applicable to any industry where an inspection, comparison, verification or observation process occurs. The present invention facilitates economies in other industries, such as including, but not limited to, civil engineering, public works, construction, fraud prevention, security, traffic enforcement, shipping, inventory control, etc. The present invention also facilitates the consolidation of such industries, but again, is not limited to the industries described herein.